



***ForeRunner™* ES-3810**
Ethernet Workgroup Switch
Release Notes

Software Version 4.3.0

MANU0146-09
Rev. B - May 13, 1998

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1.0 General Description of Software Release, ver 4.3.0

These release notes describe the Selective Multicast Filtering feature and Fixed/Known Problems that have been added or changed in the Ethernet Workgroup Switch Software release version 4.3.0 since 4.2.2(1.7).

2.0 Systems Requirements

Ethernet Workgroup Switch Software release version 4.3.0 supports the ES-3810, single and dual power supply chassis. In order to be able to run this software, the NMM must have 8 Mbytes of RAM, and Monitor software version 4.0.2. (See further details in this chapter.)

2.1 Special Mon960 Version Requirement



If the ES-3810 is already running Operational Software version 4.0.2 or higher, this section does not apply.

Verify that the Mon960 bootstrap code is 4.0.2 or higher, by selecting:

- Option 1 “Manage System” from the Main Menu
- Option 4 “Manage Software”

or,

- Option 5 “View Software Inventory

If the version is not 4.0.2, contact FORE Systems’ Technical Assistance Center (TAC) for further instructions.

2.2 Revision Levels

Software version 4.3.0 works correctly with the hardware listed in the following tables.

Table 1 - Chassis Types

Type	Description	Revision Levels
3810	Single Power Supply Chassis	
3810/CH	Dual Power Supply Chassis	All

Table 2 - Module Types

Module	Description	Revision Levels
NMM	Network Management Module	>= M
ATM-1/155MMST, ATM-1/155MMSC, ATM-1/155SMIRC, ATM-1/155UTP	ATM Uplink Modules	All *2)
FEM-2/FX, FEM-2/TX	2 Port Fast Ethernet Modules	All - All *1)
ESM-16	16 port Managed Ethernet Switch Module	All
ESM-24	24 port Ethernet Switch Module	All
ESM-12/FL	12 port Fiber ST Ethernet Switch Module	All
FEM8A/TX	8 port Fast Ethernet Switch Module	All *1)
FSM-8/TX	8 port 10/100 Segment Switch Module	All
SSM-16	16 port Segment Switch Module	All *2)
SSM-12/FL	12 port Fiber Segment Switch Module	All

*1) To be able to autonegotiate 10/100 Mbps, the SEC-100 interface chip must be at rev B or C. This can be checked on the module, or it can be checked with the console software `view Interface Configuration`.

*2) To manage the ATM module or the SSM-16, *ForeView* patch 4.3.4 needs to be installed on top of *ForeView* release 4.3. This patch release can be obtained from TACTics Online. (See Section 7.)

2.3 Documentation

The documentation listed in the following tables is available to support this release.

Table 3 - ES-3810 Manuals

ID	Description	Software	Published
MANU0145-03	<i>ForeRunner</i> ES-3810 Installation and User's Manual	4.2.x	June 1997
MANU0220-01	<i>ForeRunner</i> ES-3810 Configuration Manual	4.2.x	June 1997

The following table lists related documentation about the *ForeView* network management software that will facilitate ES-3810 system configuration.

Table 4 - ForeView Manuals

ID	Description	Software	Published
MANU0147-03	<i>ForeView</i> Network Management User's Manual	4.3.x	November 1997
MANU0082-01	<i>ForeView</i> VLAN Manager User's Manual	4.3	April 1998
MANU0161-03	<i>ForeView</i> Device Manager User's Manual	4.3.x	November 1997

2.4 Software Images

The ES-3810 View Software Inventory menu should be checked to make sure that the software listed in the following table is available.

Table 5 - Required Software

Description	Software	Published
RS232, Xmodem, Mon960 Monitor	4.0.2	June 7, 1996
TFTP Uploadable, Operational Software	NMM_4.3.0 (7821)	May 8, 1998
RS232, Xmodem Image, Operational Software	NMM_4.3.0 (7821)	May 8, 1998

3.0 New Features

3.1 Selective Multicast Forwarding in a VLAN

When IP Multicast Filtering is enabled in a VLAN, other non-IP multicast packets (e.g. Appletalk, DECnet, Spanningtree) are discarded. To prevent the discarding of non-IP multicast packets, a selective multicast feature has been added. This allows the administrator to define a list of multicast addresses per VLAN that will continue to be forwarded. The list is stored on flash.

The configuration of multicast addresses can be done from the Modify VLAN menu. See Section 3.1.1 for an example on using the following menu:

ES-3810 Modify VLAN Menu VLAN 1 (default)

- 1) Return to Main Menu
- 2) Return to Previous Menu
- 3) Add Port To VLAN
- 4) Delete Port From VLAN
- 5) Add MAC Address to VLAN
- 6) Delete MAC Address From VLAN
- 7) Enable/Disable IP Multicast Filtering for VLAN
- 8) Add Selective Multicast Address Filter
- 9) Delete Selective Multicast Address Filter
- 10) Disable Selective Multicast for this VLAN
- 11) View Selective Multicast Address Filters

Please enter selection:

3.1.1 Example

Below is an example of selective multicast forwarding in a VLAN.



Remember you must configure the NMM with an IP address for IP Multicast Filtering to function.

Suppose the multicast address 01-02-03-04-05-06 needs to be forwarded out of the ports in VLAN 'default.' Follow this menu selection path to view IP parameters: Main Menu -> Manage UDP/IP -> Manage IP Parameters -> View IP Parameters.

ES-3810 View IP Parameters

IP Address: 10.10.10.10

Subnet Mask: 255.255.255.0

Primary Gateway: 10.10.10.65

Hit <Enter> to continue.

- Step 1. Modify the VLAN 'default' so that IP Multicast Filtering is switched ON:
 - Follow this path: Main menu -> Manage VLAN -> Select another VLAN. Select the right VLAN to modify.
 - Select Modify VLAN and select Enable/Disable IP Multicast Filtering for VLAN.
 - Choose "Enable" to configure dynamic IP Multicast Filtering on this VLAN.
- Step 2. Add the multicast address to the VLAN for specific forwarding:
 - Follow this path: Main menu -> Manage VLAN -> Select another VLAN. Select the right VLAN to modify.
 - Select Modify VLAN and select Add Selective Multicast Filter.

ES-3810 Modify VLAN Menu VLAN 1 (test)

Add Selective Multicast Address Filter

Enter Multicast Address (form aa-bb-cc-dd-ee-ff):

- You will be prompted for the address to enter; type 01-02-03-04-05-06 and press <ENTER>.
- When you are done adding MAC addresses, just press <ENTER> at this prompt.
- From the modify VLAN menu, select View Selective Multicast Address Filters to obtain a list of configured multicast address, that will be programmed into the ethernet port chips.
- Step 3. Save the configuration on flash and verify if it works correctly after a reboot:
 - Follow this path: Main menu -> Manage System. Select Save Current Configuration, and the configuration is stored on flash.

3.1.2 Erasing the Configuration File

A console menu item was added so that there is no need to go to monitor mode to erase the configuration file from the flash. When doing this, the user needs to be logged in with read/write privileges.

- From the ES-3810 Manage System Menu select: Erase Configuration and Reboot. This will take you into the ES-3810 Reboot System menu.
- Now the system will prompt: "Are you sure you want to erase the Configuration-File and Reboot? [No]?"
- When you press <ENTER> or type "No," you will be returned to the ES-3810 Manage System Menu. When answering "Yes," the configuration file will be removed from the flash, and the system will be rebooted.

3.1.3 VLAN/ ELAN Configuration

The VLAN inventory menu item was enhanced to display linked ELANs or PVC connections.

From the ES-3810 Manage VLAN Menu, select 8) View VLAN Inventory to go to the ES-3810 View VLAN Inventory menu. If there is an ATM ELAN linked to a VLAN, then the menu might display, as follows:

ES-3810 View VLAN Inventory VLAN 1 (f1)

```
1. f1                ->      f1|0 (LE_1.0)
2. <Not Configured>
etc.
```

This means there is a VLAN 'f1' linked to a failover ELAN 'f1' of type ATM Forum Lan Emulation, and both have index #1.

4.0 Problems Fixed

ATM: Non-ATM Fiber multimode module types were displayed on the console as OC3 multimode.

ATM: When an ATM link is not connected, a non-specific error (*ERROR*) was displayed when trying to view the "LE-ARP" table and the VC table for that interface. Now the reason for not being able to view the table is specified.

ATM: Packets from the NMM toward an ATM ELAN were not padded to the minimum required length of a data packet. The minimum length is now 64 bytes.

ATM: Under high, unknown traffic loads sourced from ethernet and destined for ATM, LE-ARP requests were not being resolved. This prevented VCs from being established for other unknown traffic for the duration of the load.

ATM: The incoming LE-FLUSH from the BUS Multicast distribution VC was not answered. This was a problem when the ES-3810 was used in conjunction with a 3rd-party ATM switch, with ForeThought 4.0.2 or earlier, or ForeThought 5.1 with DLE configured.

ELAN: Create LEC did not work. Now you can create a LEC to an existing VLAN. The VLAN inventory menu item was enhanced to display linked ELANs or PVC connections.

ELAN: The total number of ELANs inclusive failovers has been limited to 48. This means $16 * 3$ (0-2) or any other combination is possible as long as the total does not exceed 48.

ELAN: ELAN configuration was reset to default after the system was booted with one of the 2 ATM modules removed. The ELAN configuration is erased when the system boots without any ATM modules installed.

ELAN: On the VCC display for an ELAN, the name 'Count =' has been renamed to 'Data Directs =', since this is what it actually reflects.

ESM24: Ethernet ports leaked multicasts from all VLANs even after learning a MAC address when in negative filter mode.

FEM-8, FEM-2: The First Address Database entry could not be edited (Age: locked) on a port in the Address Database when the SEC100 had a link up.

FSM8: Changes were made to the first port interface media: SEC type was changed and the Module Configuration menu was changed.

FSM8: POST and Test/Initialize from the menu did not work.

IGMP: The ES-3810 did not send IGMP queries to verify whether or not connected IP stations are still there. Also, it did not switch-off IP Multicast forwarding traffic to an ethernet port.

IP: TCP connections displayed IP addresses as garbage.

IP Multicast: IP Multicast forwarding was incorrectly enabled on both ports of a SEC10.

Monitor: In the current monitor version 4.0.2, a 'efcfg' command will erase not only the configuration file but also the application file. A console menu item was added so that there is no need to do this from the monitor anymore.

PVC: System did not allow creation of PVCs on VC 32.

Segment cards: Address Database for the whole card displayed VLAN mask entries with more than one 'I' set.

SNMP: Traps often did not reach ATM connected stations, because the trap was sent before the ATM path was UP. The coldstart trap is now sent 1-minute after start-up.

SNMP: Lan Emulation virtual ports remained in dormant state even if the ELAN state was up. Now if the ELAN is up, the ifIndex port will have the Operational Status UP.

SSM12, SSM16: Incorrect link polarity, no packet size counters, and incorrect SEC10 chip revision were fixed.

SSM12, SSM16: Reset/Initialize from the menu did not work.

SYSTEM: The ethernet stack in the NMM was set to not respond to a Netbios Test Poll. It will now only answer when the DSAP in the packet is 0x00.

VLAN: After restoring factory defaults, Rename VLAN will fail to prompt for automatic mode and LECS address after selecting Join Elan. As a workaround, reset factory defaults and save the configuration. Reboot before starting to configure the unit.

5.0 Known Issues or Concerns

5.1 Known Problems

In this section, known problems that users may encounter are described.

FEM-8, FEM-2: When a port has a link-up status, entries 2,3 and 4 of the Address database cannot be changed. As a workaround, edit the entries when the link is down, save the configuration, and reboot the ES-3810.

IP: Does not respond to UNIX Traceroute using UDP.

Telnet: When using some terminal emulators via Telnet, such as QVT4.0 TERM.EXE, LF ([CTRL]+[J]) needs to be used as the <ENTER> key. This workaround reconfigures QVT4.0: Setup -> Current Settings -> Display. The new line will be set to CRLF. Change it to LF only and save this configuration for later use.

5.2 Network Implementation

- Traffic sourced at an ethernet backbone port (VLAN mask: all ones set or multiple bits set) does not get forwarded out on a Shared Segment Module (FSM-8, SSM-16, SSM-12) port.
- The ES-3810 does not support the same MAC address on different VLANs. Instead it will relearn the MAC address on the port/VLAN where the packet was most recently received. A bridge will forward multicast and broadcast packets, and this traffic will always reach the ES-3810 twice via the BUS services from different ELANs. In addition, unknown traffic received from an external inter ELAN forwarding bridge may have been sourced in the receiving ES-3810. Both result in a situation where the ES-3810 station migration feature will remove an address from an address database, because it noted an identical MAC source address on the packetbus, and considers the station moved to another place in the network.
- If the ES-3810 needs to be configured to join a Failover ELAN, it must be done from the console-- *ForeView* 4.2/4.3 VLAN Manager will not work. The VLAN-manager can only be used to configure the ES-3810 to join an ELAN in non-failover mode. This does not mean that VLAN manager cannot create the failover ELANs.
- MAC Address Based VLANs do not work on segment modules (FSM-8, SSM-16, SSM-12).
- The SEC10 or SEC100 New Address Learned Trap does not work on a segment module port, since segment module ports function in backbone mode; however, the console will indicate 'Workgroup' mode.
- RMON can operate on both Ethernet workgroup or segment module ports.
- RMON Packet capture, All Hosts overview, Conversation monitoring, etc. can be done at only one port at a time. In most RMON packages, this can only be done by creating a separate stand-alone agent, with the interface variable equal to the port that needs to be monitored.
- In order to enable IGMP processing, the ES-3810 must have an IP address configured at boot time. If an IP address is not configured before a VLAN is enabled for IGMP multicast filtering, then IGMP processing will not work until an IP address is configured for the ES-3810 and the machine is rebooted.

6.0 Additional Information

6.1 New Hardware: SSM12/FL

This software version adds support for SSM12/FL, the 12 port Fiber Optic segment module. (For more information on the SSM12/FL, visit www.fore.com.)

6.2 NMM Fault Record

In case of a system failure the NMM will write memory register information to the console. The fault record now also contains version information. For example, a Fault Record that might be displayed in a console session, when a serious problem on the NMM occurs, would look like the following example:

```
System Software Version: 4.3.0
Fault Record:
    PC = d87ba8fe  AC = 00001002  TYPE = 00030002
    FAULTTYPE = 03  SUBTYPE = 02
    FAULT ADDRESS = 90127e94
REGISTER DUMP (g0-g15)
G0   = 0000000d  G1   = 9038df80  G2   = 001b0000  G3   = 00000083
G4   = 00000001  G5   = 00000000  G6   = 001b0000  G7   = 90127e40
G8   = 905110c0  G9   = 90521108  G10  = 00000000  G11  = 00000000
G12  = 00000000  G13  = d87ba8fe  G14  = 00000000  FP   = 90195010
(Previous Stack Frame) First 16 words are R0-R15
90194f90:90194f50 90194fe0 90127e98 90287c30 00000000 90511130 905110dc 00000000
90194fb0:00000059 00000171 500a1848 00057f1c 00000000 00000000 00000080 00000001
-----STACK-----
90194fd0:9003d730 00000001 00000000 00000000 90194f90 90195030 90161ab4 90287c30
90194ff0:00000000 90511130 905110dc 00000000 d87ba8fe 00001002 00030002 90127e94
90195010:90194f91 90195050 900233bc 47fc0011 00030002 901b5a10 d87ba8fe 00001002
90195030:00000001 90023370 00000003 00000000 f001ff81 d8fba8fe 00000000 00000004
90195050:00000059 00000171 500a1848 00057f1c 00000000 00000000 00000080 00000001
90195070:90161a10 0000001f 00000000 00000083 90387cac 90387cac 90387c30 90127e40
90195090:d87ba8fe 9003d730 001b0000 d87ba8fe 90195030 90195210 9001f4ac 90287c30
901950b0:901950e0 905110c0 901950e4 90195110 90521108 00000000 00000000 00057f1c

FP[- 0]: PFP = 90194f90  SP = 90195050  RIP = 90127e98
FP[- 1]: PFP = 90194f50  SP = 90194f90  RIP = 9003d8f8
FP[- 2]: PFP = 90194f10  SP = 90194f50  RIP = 900f5bf8
FP[- 3]: PFP = 90194ed0  SP = 90194f10  RIP = 900f5e08
FP[- 4]: PFP = 90194e90  SP = 90194ed0  RIP = 900fda14
FP[- 5]: PFP = 90194e40  SP = 90194e90  RIP = 900e79a4
FP[- 6]: PFP = 90194db0  SP = 90194e34  RIP = 9009c3d4
FP[- 7]: PFP = 90194d50  SP = 90194da0  RIP = 90104b38
FP[- 8]: PFP = 90194d10  SP = 90194d50  RIP = 90023650
FP[- 9]: PFP = 90194cd0  SP = 90194d10  RIP = 90041c78
FP[-10]: PFP = 90194c80  SP = 90194cd0  RIP = 901713fc
FP[-11]: PFP = 90194c40  SP = 90194c80  RIP = 9012cde8
FP[-12]: PFP = 90194c00  SP = 90194c40  RIP = 9012d080
FP[-13]: PFP = 90194b50  SP = 90194c00  RIP = 900202ac
FP[-14]: PFP = 90194b10  SP = 90194b50  RIP = 9002724c
FP[-15]: PFP = 90194a60  SP = 90194b10  RIP = 90020324
FP[-16]: PFP = 901949c0  SP = 90194a60  RIP = 90026400
CONSOLE Heap: Adr=9039eac0 Used=000001e8 Avail=0000fe18 Largest=00000000
STP Heap      : Adr=903aeac0 Used=00000024 Avail=0000ffdc Largest=00000000
AGENT Heap    : Adr=903beac0 Used=00000084 Avail=0000ff7c Largest=00000000
ATM Heap      : Adr=903ceac0 Used=00015fcc Avail=000ea034 Largest=00000000
RMON Heap     : Adr=904ceac0 Used=00053924 Avail=002ddc1c Largest=00000000
```

6.3 TFTP Backup and Restore of the ES-3810 Configuration Database

In this version, using the TFTP protocol, the binary configuration file that is stored on flash can now be saved to a TFTP server. The purpose of this feature is to enable users to keep a backup of configurations and quickly install and configure multiple ES-3810s. The configuration file is in binary format.

To perform a backup or restore of the configuration file:

1. Select “Manage System” from the Main Menu
2. Choose option 8 or 9 from the following menu:

```
1) Return to Main Menu
2) Manage System Parameters
3) Manage Module
4) Manage Software
5) Save Current Configuration
6) Restore Factory Default Configuration
7) Restore Last Saved Configuration
8) Upload Current Configuration to TFTP Server
9) Download Configuration from TFTP Server
Reboot System
```



Downloading a configuration file for a given machine requires that that machine have the same hardware configuration as the ES-3810 from which the configuration was saved. The cards must be in the same slots and be the same type as the ES-3810 from which the configuration was taken.

6.3.1 Backup

To copy the configuration file from the ES-3810 to a TFTP host, option 8 (from the above section) needs to be selected. The user will be asked for the TFTP server's IP address and the filename to save the configuration under. (There will be only a default IP address between the brackets if the user did a prior up- or download.)

After choosing option 8, the following will appear:

```
Enter TFTP server's IP address [10.10.10.1]:
```

```
Enter name of the file for storing the current configuration: test.cfg
```

```
Writing 65536 bytes to test.cfg
```

```
Hit <Enter> to continue.
```

6.3.2 Restore

To copy a configuration file from a TFTP server into the ES-3810's flash, option 9 needs to be selected from the Manage System menu. The user will be asked for the IP address of the TFTP server and the filename to retrieve.

```
Are you sure you want to download a new configuration [No] ?
```

```
Enter TFTP server's IP address [10.10.10.1]:
```

```
Enter name of the file to retrieve: test.cfg
```

ERROR: Download of configuration file failed.
The existing configuration will not be changed.

Hit <Enter> to continue.

6.4 Dual Power Supply Chassis: Console Menu Enhancement to View Power Supplies

This version offers the ability to view the status of both power supplies in case a Dual Power Supply Chassis (model /CH) is being used.

From the Main Menu, option 3 (Manage Module) can be selected. The user will then be prompted to select a module to manage.

ES-3810 Module Selection

Slot	Type	State	Description
1	ATM-1/155	Enabled	OC-3/155MM ATM Backbone Interface Module
2	ESM-24	Enabled	24-port 10BaseT Ethernet Switch Module
3			Empty
4	SSM-16/TX	Enabled	16 Port-10BaseTX Segment Switch Module
5	NMM	Enabled	Network Management Module
6			Empty
7	PS-AC	Enabled	AC 110-220V Powersupply
8	PS-AC	Enabled	AC 110-220V Powersupply

Please enter selection (by Slot):



Lines 7 and 8 correspond to the top and bottom power supply slots on the back of the ES-3810. If no power supply is installed in a slot, then `state` will appear as `Empty`, and this slot cannot be selected.

When 7 is selected from the Manage Module Menu, then the following menu will appear:

ES-3810 Manage Module Menu

Module 7 (PS-AC)

- 1) Return to Main Menu
- 2) Return to Previous Menu
- 3) Select Another Module
- 4) View Module
- 5) Reset and Reinitialize Module
- 6) Test and Reinitialize Module
- 7) View Module Inventory

Please enter selection:



Options 5 and 6 in the Manage Module Menu are invalid for a Power Supply module.

When 4 is selected from the Manage Module Menu, the following menu will appear:

ES-3810 View Module

Module 7 (Power Supply)

Module Name: Module 7 (Power Supply)
Model: Power Supply
Serial Number: n/a
Hardware Version: n/a
Firmware Version: n/a
Status: Down
SNMP Trap: Disabled

Hit <Enter> to continue.

In the above example, the status of the top Power Supply is `Down`, meaning that the Power Supply is switched off, or the power is not connected, and that SNMP traps will not be issued for this slot. If the status is `Up`, the Power Supply is functional. If `SNMP Trap` is `Enabled`, then traps will be sent to the SNMP trap-destination-list configured stations.

6.5 Entity MIB SNMP Traps

SNMP traps will be sent for a Power Supply if:

- The Power Supply is switched on or off.



ONLY power supplies on the back of the unit may be hot inserted or removed. Before removing a power supply, switch it OFF, and disconnect the power cable.

- The Power Supply is hot removed or inserted.

Traps are only set if they are enabled (see Section 6.3). The user can enable entity traps via the following procedure:

1. Reset the configuration to factory default.
2. Save the configuration and reboot the unit.
3. Send an SNMP command to enable traps on both power supplies.

An example of SNMP set commands to enable traps on both power supplies is:

```
snmp set .iso.org.dod.internet.private.enterprises.fore.admin.  
entityExtensionMIB.entityExtensionMIBObjects.entityPhysicalExtension.  
entPhysicalXTable.entPhysicalXEntry.  
entPhysicalStateChangeTrapEnable.2 8
```

```
snmp set .iso.org.dod.internet.private.enterprises.fore.admin.  
entityExtensionMIB.entityExtensionMIBObjects.entityPhysicalExtension.  
entPhysicalXTable.entPhysicalXEntry.  
entPhysicalStateChangeTrapEnable.3 8
```



To disable the traps, the value 8 can be replaced with 7.

4. Save the configuration and reboot the unit.

6.6 HP Openview Entry for Trap Definition File

The 3810 uses standard MIB link up/ link down and coldstart traps from Mib-II.

To view the address learned traps, the following procedure needs to be implemented so that HP Openview can understand the trap.

1. Put the following data in a file, for example: `/tmp/fore_trapd_update`

```
FORE_ES3810 {.1.3.6.1.4.1.326.2.3}
FORE_SEC10ADDRLEARNED {.1.3.6.1.4.1.326.2.3} 6 0 A "Status Events" 1
FORE ES-3810 securely learned a new address $2 (multicast group $3) on interface $1
SDESC
EDESC
```

```
FORE_SEC100ADDRLEARNED {.1.3.6.1.4.1.326.2.3} 6 1 A "Status Events" 1
FORE ES-3810 securely learned a new address $2 (multicast group $3) on interface $1
SDESC
EDESC
```

2. When standard RFC1557 RMON trap definitions are not in the trapd.conf, then add the following information:

```
FORE_RMON_RISING {.1.3. 6.1.2.1.16} 6 1 A "Status Events" 1
RMON Device: RMON Rising Alarm, index: $1, variable: $2, samplotype: $3, value: $4, treshold: $5.
SDESC
EDESC
```

```
FORE_RMON_FALLING {.1.3. 6.1.2.1.16} 6 2 A "Status Events" 1
RMON Device: RMON Falling Alarm, index: $1, variable: $2, samplotype: $3, value: $4, treshold: $5.
SDESC
EDESC
```

3. The following Mib II entity state change notification may also need to be added:

```
FORE_MIBII_ENTITY_STATE_TRAP {.1.3.6.1.2.1.47.2.0.1} 6 2 A "Status Events" 1
MIBII Entity configuration change notification.
SDESC
EDESC
```

4. Add the following 3810 specific state change trap:

```
FORE_ENTITY_STATE_TRAP {.1.3.6.1.4.1.326.1.11.2.0.1} 6 2 A "Status Events" 1
FORE ES-3810 Entity state change notification, index $1, state $2.
SDESC
EDESC
```

5. Update HP Openview with the file created in step 1:

```
xnmevents -load /tmp/fore_trapd_update
xnmevents -event
```

6. Then remove the file: `rm -f /tmp/fore_trapd.update`

6.7 Restoring Normal Boot Operation After Erasing cfg File

If the ES-3810 boots-up in Manufacturing Test Mode (i.e. the unit's configuration file was erased during a serial upgrade), follow the steps below while in the Manufacturing Test Main Menu to return to the login prompt:

1. Select the Modify Flex Boot Parameters Option.
2. Type **y** and press <ENTER> at the **Enable auto-execute [Yes] ?** prompt.
3. Type **y** and press <ENTER> at the **Enable POST [Yes] ?** prompt.
4. Type **n** and press <ENTER> at the **Enable Manufacturing Test Mode [Yes] ?** prompt.
5. When asked to confirm settings, type **y** and press <ENTER>.
6. At the Manufacturing Test Main Menu select the "Reboot System" option.
7. When asked to confirm system reboot, type **y** and press <ENTER>.

The ES-3810 should restart using the new software image, perform its Power-On Self Test (POST), and present the login screen.

If not, or if you have problems with the upgrade, please call FORE Systems' Technical Assistance Center.

6.8 RS232 Console Connector Wiring Details

This sub-section serves as an addendum to the *ForeRunner* ES-3810 Installation and User's Manual (MANU 0145-03), pages 2-6.

To be able to connect to a PC's COM port (also a DTE) the cable from table 2.1 on page 2-6 (RS232 connector type on the NMM module: Male chassis, 9 pin D, wired as DTE) needs to be crossed.

Table 6 - Description of the Signals

Signal Description	EIA RS232	ITU V.24	Pin Number on DB9S	Data Direction on 3810
TxD Transmit Data	BA	103	3	OUT
RxD Received Data	BB	104	2	IN
RTS Request to Send	CA	105	7	OUT, Active
CTS Clear to Send	CB	106	8	IN
DSR Data-Set Ready	CC	107	6	IN
GND Signal Ground	AB	102	5	-
DCD Data-Terminal Ready	CF	109	1	IN
DTR Data-Terminal Ready	CD	108.2	4	OUT, Active



CTS, DSR and DCD needs an active signal on the ES-3810 input, otherwise the console will not work. **When CTS is inactive (-12V) and DSR is active (+12V), the unit cannot boot or reboot. The dial-in modem may need to be configured correctly to avoid a deadlock situation.**

6.9 Dual ATM Modules and Load Sharing

The ES-3810 can be equipped with none, one or two ATM adapters. The ATM modules are best installed in slots A, B, or F, because they are half-size, and these slots have 2-connectors each. (They may also be installed in C or D, but this wastes half a slot.)



If there was an ATM configuration present on the flash, previous to installation of the second ATM module, make sure to make a note of the configuration. Adding a second module causes the ATM Lan Emulation configuration to be erased.

Using two ATM modules allows for redundancy and load balancing across the uplinks.

The ATM End Station Identifier (ESI) is the ES-3810 MAC address, where the first byte changes depending on the first or second interface (Local Administered Address bit). For example, an ES-3810 with MAC address 00A03600A74D has the following NSAP addresses:

Table 7 - Example NSAP Addresses

Interface	ATM ESI
A1	00A03600A74D
B1	02A03600A74D

The two ATM modules can be connected to the same ATM switch, or to different ATM switches (dual-homed). When both units successfully connect to the same ELAN, the system will Load Share using the two ATM uplinks. In load sharing mode, *Even* numbered ethernet ports will use the *first* ATM module (slot A is before B). *Odd* numbered ethernet ports will use the *second* ATM module for setting up SVCs, or accepting SVCs (through LE-ARP responses). Incoming ATM broadcast traffic will be loadshared by the 2- adapters, the index number of the LEC being the determining factor in choosing which adapter is used (odd numbered LECs are serviced by one adapter, even numbered LECs by the other adapter).



When two ATM adapters are installed, remember to select the proper ATM interface prior to looking at LEC ARP table, VC table, etc., since statistics are kept per interface.

When one of the two ATM interfaces loses connection to the ELAN, all VCs are rerouted to the working interface. To signal the other end of the SVC connection, LE NARPs are sent per the ES-3810 registered remote MAC address. At the same time, load balancing is stopped, and one adapter handles all the ATM traffic. The state of the Emulated LANs on both adapters is checked once per second, and the system will return to loadsharing when both adapters successfully reconnect to the ELAN.

7.0 Contacting Technical Support

In the U.S.A., you can contact FORE Systems' Technical Assistance Center (TAC) using any of the following methods:

1. You can receive online support via TACtics Online at:

<http://www.fore.com/tac>

2. You can contact TAC via e-mail at:

support@fore.com

3. You can telephone your questions to TAC at:

1-800-671-FORE (3673) or +1 724-742-6999

4. You can FAX your questions to TAC at:

+1 724-742-7900

Technical assistance for non-U.S.A. customers should be handled through your local distributor.

No matter which method is used for technical assistance, please be prepared to provide the serial number(s) of the product(s) and as much information as possible describing your problem or question.